



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,146	10/19/2005	Erling Lennart Hansen	4020--045767	5566
28289	7590	04/22/2008		
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER HEINCER, LIAM J	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			04/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,146	Applicant(s) HANSEN ET AL.	
	Examiner Liam J. Heincer	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-36 is/are rejected.
- 7) ☒ Claim(s) 22 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 22 and 31 are objected to because of the following informalities: Claim 22 contains a typo such that there is no space between "of" and "claim" in line 1. Claim 31 contains a typo such that alkanolamine has been misspelled "aldanolamine" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 17-21 and 25-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Hansen et al. (US Pat. 6,730,730).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Considering Claim 17: Hansen et al. teaches a formaldehyde free (1:19-25) aqueous (2:20-23) binder composition (1:10-17) comprising a binder component obtainable from the reaction of an alkanolamine (claim 7) and a carboxylic anhydride (1:39-44); and a carbohydrate (claim 24).

Considering Claims 18-21: Hansen et al. teaches a ratio of amine and hydroxyl groups to carboxyl groups of 1:1.4/~0.7:1 (example 1). Note: Each anhydride is being assumed to have 2 carboxyl groups available for reaction.

Considering Claims 25, 26, 29, and 30: Hansen et al. teaches binders comprising a mixture of tetrahydrophthalic anhydride and phthalic anhydride or trimellitic anhydride (example 1, binders 2 and 3).

Considering Claims 27 and 28: Hansen et al. teaches the molar ratio of cycloaliphatic anhydride to aromatic anhydride as being 0.75 to 1.3 (example 1, binder 2).

Considering Claim 31: Hansen et al. teaches the alkanolamine as being diethanolamine, 3-amino-1,2-propanediol, or 2-amino-1,3-propanediol (claim 7).

Considering Claims 32 and 33: Hansen et al. teaches the carbohydrate as being sucrose, glucose syrup or modified starch (claim 24).

Considering Claim 34: Hansen et al. teaches adding a curing accelerator to the binder (3:57-61).

Considering Claims 35 and 36: Hansen et al. teaches a mineral fiber product made by contacting fibers with the binder and curing the binder (claim 26).

Claims 17-21 and 25-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen et al. (WO 01/05725).

Considering Claim 17: Hansen et al. teaches a formaldehyde free (1:10-16) aqueous (3:1-2) binder composition (1:1-9) comprising a binder component obtainable from the reaction of an alkanolamine (claim 6) and a carboxylic anhydride (1:28-2:2); and a carbohydrate (claim 10).

Considering Claims 18-21: Hansen et al. teaches a ratio of amine and hydroxyl groups to carboxyl groups of 1:1.4/~0.7:1 (example 1). Note: Each anhydride is being assumed to have 2 carboxyl groups available for reaction.

Considering Claims 25, 26, 29, and 30: Hansen et al. teaches binders comprising a mixture of tetrahydrophthalic anhydride and phthalic anhydride or trimellitic anhydride (example 1, binders 2 and 3).

Considering Claims 27 and 28: Hansen et al. teaches the molar ratio of cycloaliphatic anhydride to aromatic anhydride as being 0.75 to 1.3 (example 1, binder 2).

Considering Claim 31: Hansen et al. teaches the alkanolamine as being diethanolamine, 3-amino-1,2-propanediol, or 2-amino-1,3-propanediol (claim 6).

Considering Claims 32 and 33: Hansen et al. teaches the carbohydrate as being sucros, glucose syrup or modified starch (claim 10).

Considering Claim 34: Hansen et al. teaches adding a curing accelerator to the binder (8:27-30).

Considering Claims 35 and 36: Hansen et al. teaches a mineral fiber product made by contacting fibers with the binder and curing the binder (claim 13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (WO 01/05725) as applied to claim 18 above, and further in view of Hummerich et al. (US. Pat. 6,071,994).

Considering Claims 22-24: Hansen et al. teaches the binder of claim 18 as shown above.

Hansen et al. does not teach the starch being added in the claimed amount. However, Hummerich et al. teaches adding starch to a formaldehyde free binder comprising an acid anhydride and an alkanolamine in an amount of 20% by weight (7:5-19). Hansen et al. and Hummerich et al. are combinable as they are concerned with the same field of endeavor, namely formaldehyde free aqueous binders comprising alkanolamines and acid anhydrides. It would have been obvious to a person having ordinary skill in the art at the time of invention to have added the carbohydrate of Hansen et al. in the amount of Hummerich et al., and the motivation to do so would have been, as Hummerich et al. suggests, it will prevent the resin from precipitating in the solution (7:5-19).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892

Double Patenting

Claim 17, 22-24, and 31-33 are directed to an invention not patentably distinct from claim 7 of commonly assigned US Patent 6,730,730. Specifically, see below.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned US Patent 6,730,730, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the

commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 17, 22-24, and 31-33 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 7 of U.S. Patent No. 6,730,730 in view of Hummerich et al. (US. Pat. 6,071,994).

Considering Claim 17, 22-24, 32, and 33: Patent '730 teaches a binder comprising a resin formed from an alkanol amine (claim 7) and an anhydride (claim 1).

Patent '730 does not teach the starch being added in the claimed amount. However, Hummerich et al. teaches adding starch to a formaldehyde free binder comprising an acid anhydride and an alkanolamine in an amount of 20% by weight (7:5-19). Patent '730 and Hummerich et al. are combinable as they are concerned with the same field of endeavor, namely formaldehyde free aqueous binders comprising alkanolamines and acid anhydrides. It would have been obvious to a person having ordinary skill in the art at the time of invention to have added the carbohydrate of Hummerich et al. to the binder of Patent '730, and the motivation to do so would have been, as Hummerich et al. suggests, it will prevent the resin from precipitating in the solution (7:5-19).

Considering Claim 31: Patent '730 teaches the alkanolamine as being diethanolamine, 3-amino-1,2-propanediol, or 2-amino-1,3-propanediol (claim 7)

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARK EASHOO/

Supervisory Patent Examiner, Art Unit 1796

21-Apr-08

LJH

April 16, 2008